

Applying LEAN to ATG Process Improvement



**CNSF Major Commanders' Symposium
12 June 2007**

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Agenda

- **Goals**
- **Timeline**
- **Process**
- **MOB E Example**

ATG Process Improvement Goals

- **Assumptions:**
 - Progress made in continuous training philosophy
 - SHIPTRAIN taking hold
- **Goals:**
 - Reduce ATG Manning 20-40%
 - Reduce ULT sCT by 50% or more
- **Process**
 - Conduct Lean/6S/TOC by warfare certification area
 - Lean was appropriate tool
 - No Green/Black Belts for Lean
 - Spread tasking across all ATGs
 - Initial brief to CNSF on 6 April 2007
 - SWE PRT Brief on 8 May 2007
 - Phase 1 Completion by 1 Jul

**From Charter,
and
4 Jan 07 BOD
presentation**

ATG Process Improvement Deliverables

- **Baseline assessment** of process performance, process cost, process/value stream maps
- **Documentation of “to-be”** value stream/process maps, process performance, process cost
- **Draft organization along CLASSRON product lines** for each ATG, including detailed billet matrix that accounts for all assigned personnel and funded billets at each ATG
- **Recommended changes to SHIPTRAIN** policy and / or business rules in support of improving sCT, and reducing ULT costs and manpower requirements
- **A foundation for ensuring continuous improvement** of the processes
- **Quantifiable/measurable risk assessments** to overall unit mission capability
- **Revised Surface Force Training Manual**

Leading Process Performance Indicators: 36 ULTRA S's through Apr 2007

	AIR			AMW			ATFP			AW			BMD			CCC		
	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF
AVG	89.0	90.1	1.1	71.9	87.9	15.9	80.4	82.1	2.3	84.0	89.1	5.3	97.6	99.5	0.1	86.2	90.6	4.8

**Red Figures Indicate ATG Assessment lower than ships'. Black indicates ATG's TFOM higher.
Color of boxes reflects TFOM Score: Green (90-100), Blue (80-89), Yellow (70-79), Red (0-69)**

	CRY			EW			FSOM			INT			MOBD			MOBE		
	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF
AVG	80.1	89.9	10.5	85.6	87.4	1.9	90.8	89.0	1.8	92.0	90.8	1.3	82.1	84.5	2.2	83.5	73.2	10.8

	MOBN			MOBS			SAR			STW			SW			USW		
	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF	SHIP	ATG	DIFF
AVG	85.8	85.2	0.3	86.0	87.7	1.6	84.1	87.0	2.9	91.8	90.0	1.8	84.2	89.3	5.0	88.6	86.8	2.1

Analysis of ULTRA S results to date:

- Steady Strain behavior starting to take hold in many mission areas
- Can make targeted "business rule" changes to leverage positive behavior trends
- Time for Return on Investment (ROI)

Two Stage Process

- **Stage I:** Now through Jul 07
 - “First pass” to ID high payoff
 - Align billet structure with current SHIPTRAIN requirements (i.e., as of 1 Jan 06 SFTM)
 - Support POM10 development
 - By Warfare Area - what can we learn “in the process”
 - Define Throughput
- **Stage II:** Jul 07-Apr 08
 - Second pass
 - Tie to accumulated SHIPTRAIN data, including second-pass ULTRA-C/Es
 - Support POM12
 - By ATG - what can we learn that does not contribute to the process

Execution Plan and Timeline

CLASSRON Standup

FFG, PC, MCM, LCS

**LHA, DDG, LPD,
CG**

FEB 07

MAR 07

APR 07

ATG Process Improvement - Stage I

Phase 1

Phase 2

Phase 3

Baseline
analysis

MOB E/ ATP

MOB S, D, USW

**Remaining
areas**

FEB 07

APR 07

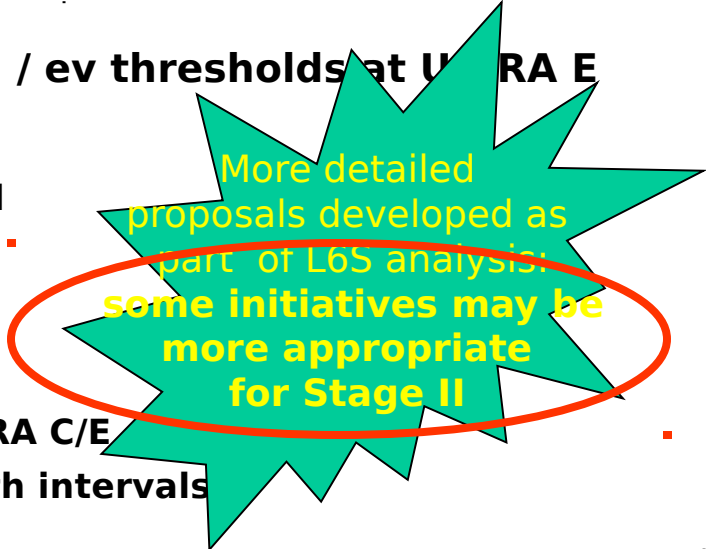
MAY 07

**JUL
07**

Aligning with Enterprise CLASS Product Lines

Potential SHIPTRAIN Business Rule Changes

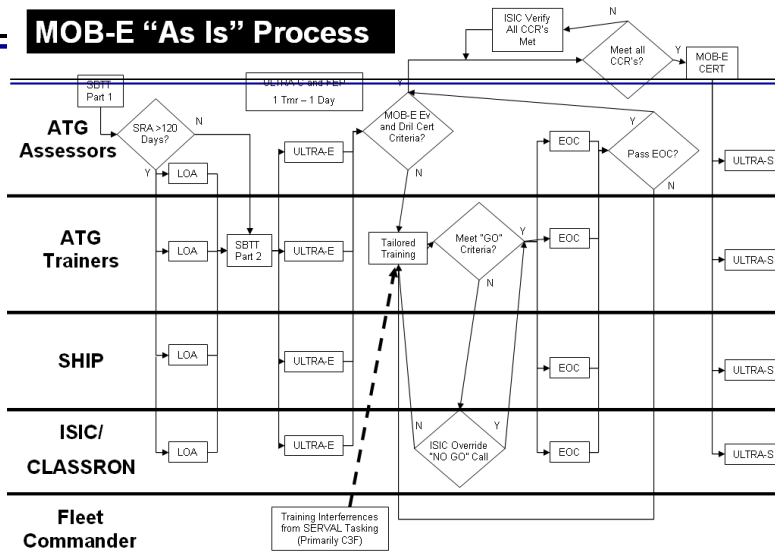
- **Eliminate N82 assessors & single point failure EOCs?**
 - Align with Continuous Readiness model as other Warfare areas
 - N82 trainers officially empowered as assessors (they do this now!)
 - Ships required to meet minimum drill / ev thresholds at ULTRA E
- **Eliminate FEP?**
 - Ships certify when TFOM BLUE/GREEN attained
 - CCRs complete or plan in place to complete
 - In CNSF revision 1D
- **Conduct (1) ULTRA S per year vice (2)?**
 - From 6-month to 12-month, alternating w/ULTRA C/E
 - ULTRA C/E, ULTRA-S, ULTRA C/E at 12 month intervals
 - Restore unannounced assessments
 - Based on TFOM trends analyzed by CR (with ISIC concurrence)
- **Integrate ULT ATP cert process with INT/ADV requirements?**
 - Eliminate proficiency redundancies and potentially decrease ATG manpower
 - TFOM "YELLOW" until completion of FPEX



More detailed proposals developed as part of L6S analysis; some initiatives may be more appropriate for Stage II

MOB-E Example

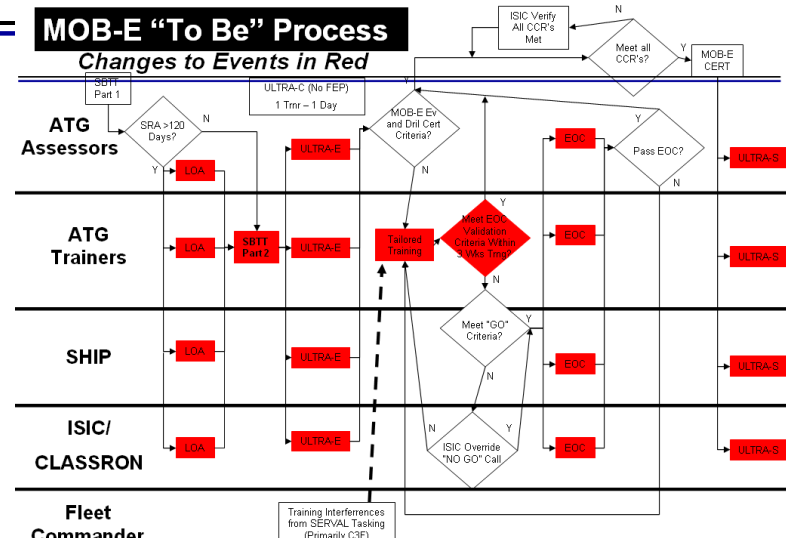
MOB-E "As Is" Process



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MOB-E "To Be" Process

Changes to Events in Red



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MOB-E "AS IS" PROCESS

	LOA ASSESS.	LOA TRNRS	SBTT Onbd	ULTRA-E ASSESS.	ULTRA-E TRNRS	ULTRA-C TRNRS	TSTA TRNRS	EOC ASSESS.	EOC TRNRS	FEP TRNRS	ULTRA-S ASSESS./ TRNRS	ULTRA-S TRNRS (NON-U/W)	TOTAL
# TRAINERS	5	5	5	5	5	1	5	5	1	1	4	3	
# DAYS ONBOARD	3	3	5	3.5	2	1	20	1	1	1	3	1.5	
# DAYS WORKED	3	3	5	3.5	2	1	20	1	1	1	3	1.5	
TOTAL MANDAYS (MD tot)	15	15	25	17.5	10	1	100	5	1	1	12	4.5	207
MANDAYS WORKED (MD w)	15	15	25	17.5	10	1	100	5	1	1	12	4.5	207
U/W DAYS	0	0	0	1.5	0	1	15	1	0	1	1.5	0	21
IMPORT DAYS	3	0	5	2	0	0	5	0	0	0	1.5	0	16.5
TOTAL DAYS (sCT)	3	0	5	3.5	0	1	20	1	0	1	3	0	37.5

MOB-E "TO BE" PROCESS

	LOA ASSESS.	LOA TRNRS	SBTT Onbd	ULTRA-E ASSESS.	ULTRA-E TRNRS	ULTRA-C TRNRS	TSTA TRNRS	EOC ASSESS.	EOC TRNRS	FEP TRNRS	ULTRA-S ASSESS./ TRNRS	ULTRA-S TRNRS (NON-U/W)	TOTAL
# TRAINERS	5	2	5	5	2	1	5	2	0	1	4	0	
# DAYS ONBOARD	3	2	2	3.5	2	1	15	1	0	1	3	0	
# DAYS WORKED	3	2	2	3.5	2	1	15	1	0	1	3	0	
TOTAL MANDAYS (MD tot)	15	4	10	17.5	4	1	75	2	0	1	12	0	141.5
MANDAYS WORKED (MD w)	15	4	10	17.5	4	1	75	2	0	1	12	0	141.5
U/W DAYS	0	0	0	1.5	0	1	10	0.33	0	1	1.5	0	15.33
IMPORT DAYS	3	0	2	2	0	0	5	0	0	0	1.5	0	13.5
TOTAL DAYS (sCT)	3	0	2	3.5	0	1	15	0.33	0	1	3	0	28.83

MANDAY (MD tot) REDUCTION	65.5
% MANDAY (MD tot) REDUCTION	31.6%
U/W DAY REDUCTION	5.7
% U/W DAY REDUCTION	27.0%
TOTAL DAY (sCT) REDUCTION	8.7
% TOTAL DAY (sCT) REDUCTION	23.1%

Summary of Changes for "To Be" Process

EVENT	CURRENT "As Is" PROCESS	CHANGES FOR "To Be" PROCESS	MANDAY % REDUCED	MANDAYS REDUCED
LOA	Full Assessment Team (5) and Full Training Team (5) for all 3 days	Reduce Training Team from 5 to 2 and they are only onboard for first 2 days	5.3%	11.0
SBTT Part 2 (Onboard)	Full Training Team (5) for 5 days	Reduce time onboard from 5 to 2 days	7.2%	15.0
ULTRA-E	Full Assessment Team (5) for 3.5 days and Full Training Team (5) for first 2 days	Reduce Training Team from 5 to 2	2.9%	6.0
TSTA	Full Training Team (5) for 4 weeks (20 days)	Reduce training from 4 weeks (20 days) to 3 weeks (15 days)	12.1%	25.0
EOC	Full Assessment Team (5) and Training Team Leader (1) for 1 day. Very few ships have met proficiency requirements at ULTRA-E and were required to complete EOC	Anticipate 2/3's of ships will validate EOC during TSTA and a full Assessment Team (5) and Training Team Leader (1) for 1 day will only be required for 1/3 of the ships.	1.9%	4.0
ULTRA-S	One Post CHENG Senior Assessor and 3 Assessors/Trainers for all 3 days and 3 Trainers for first 1.5 days	Remove Trainers for first 1.5 days.	2.2%	4.5

TOTAL

31.6%

65.5

U/W DAY REDUCTION
% U/W DAY REDUCTION

5.67
27%

TOTAL DAY (sCT) REDUCTION
% TOTAL DAY (sCT) REDUCTION

8.67
23%

Validation of EOC during TSTA

***From kickoff
brief on 6
April
-Inputs for
process
reductions
already
applied in
CNSF***

***3502.1D
(draft)
-Moving
quickly***

- **Ships can validate EOC during TSTA by demonstrating the following proficiency requirements during any one of the first three weeks of TSTA training:**
 - **Evolutions: An overall average for the week of at least 75% effective.**
 - **Each section must complete at least 2 standard evolution sets during the week.**
 - **Drills: An overall average for the week of at least 60% effective.**
 - **Each section must complete at least 2 standard drill sets during the week.**

Potential Risks and Mitigations

- **Reduction of waterfront O6/O5 oversight**
 - **O3/O4s/E8s as “senior assessors”; plus up in Warrants, senior LDOs?**
 - **Increased role for COs as “day-to-day” CHENG mentors and standards “champions”**
 - **Break down any barriers between MOB-E/non-MOB-E Senior Assessor requirements**
- **Perceived relaxation in standards**
 - **Link ULTRA E results to RED “E”**
 - **More emphasis on MLOCs, EVs & documentation of equipment degradations; less on “hot plant” drills**
 - **Drill requirements tailored to CLASS**
 - **Example: More drills for Steam / less drills for other propulsion types**
 - **Use TFOM performance trends and targeted (surprise) assessments to verify steady strain training programs and use of consistent standards**

Quick Look Recommendations

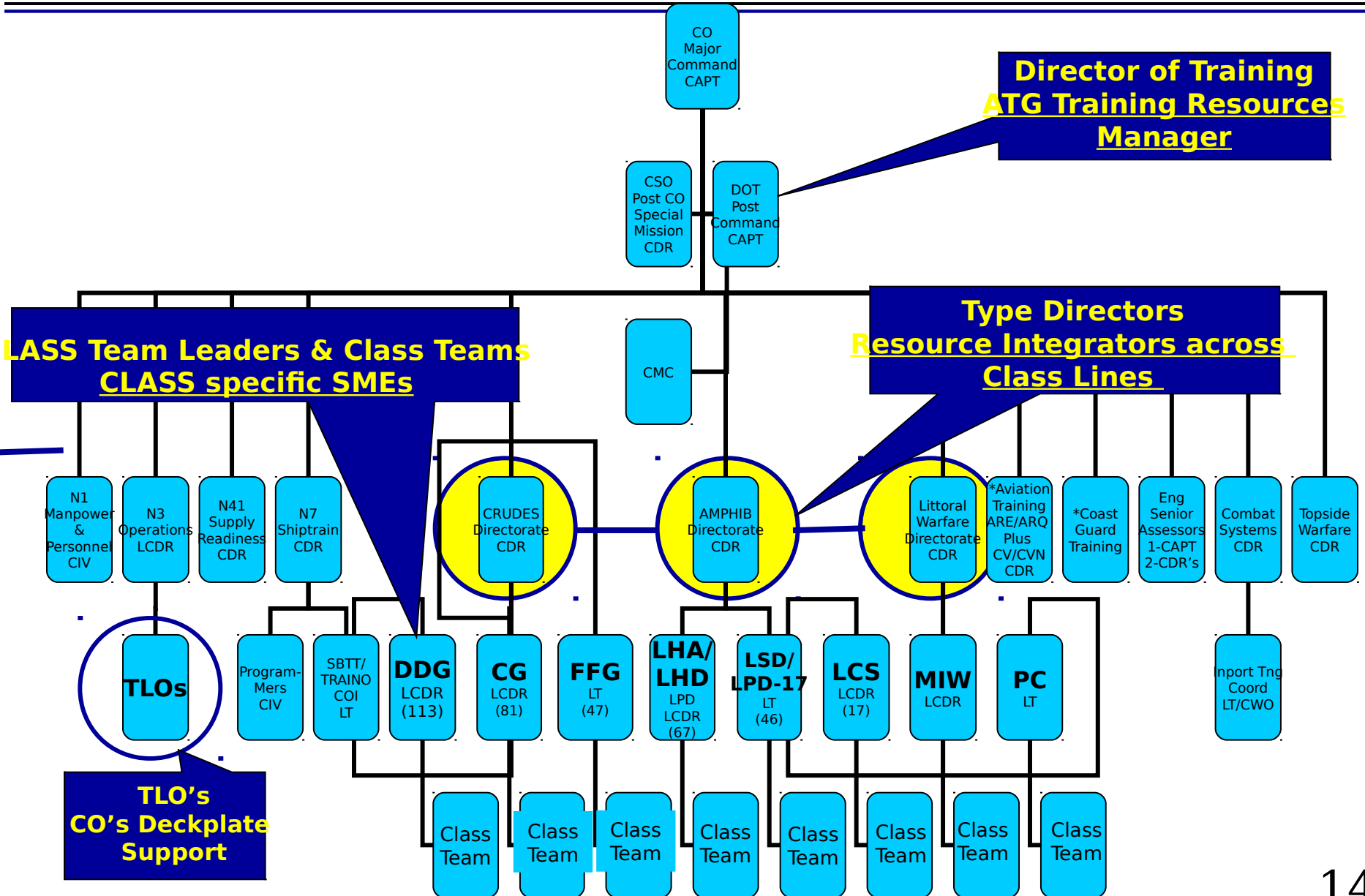
- **BLUF: Billets ID'ed for CR ED Offset**
 - **PAC ATO: 3 total (3 CDRs)**
 - **ATGPAC: 1 of 3 post-CR O5 billets remaining**
 - **UIC 57062 BSC: 82120 Rank: CDR (Deputy Engineer)**
 - **ATGWP: 2 of 3 O5 billets (subsequent change of one to O-3 billet)**
 - **UIC 57064 BSC: 30010 Rank: CDR (OPS) (Since changed to O-3 Billet)**
 - **UIC 57064 BSC: 00310 Staff Read General Rank: CDR (DOT)**

***Seven ATG 1110 Billets already converted to
CLASSRON EDO billets.
Enterprise Win.***

- **LANT ATO: 4 total (CDR, 2 LCDRs, LT)**
 - **UIC 35313 BSC: 00300 Rank: CDR (1 of 3 senior assessors)**
 - **UIC 35313 BSC: 00450 Rank: LT (1 of 19 assessors)**
 - **UIC 0022A BSC: 70020 Rank: LCDR (1 of 3 ATGL staff)**
 - **UIC 30733 BSC: 40305 Rank: LCDR (1 of 2 MPA diesel billets)**

**- All billets for compensation are funded thru POM 10
- No other "claims" on these billets
- Required personnel actions can commence now**

ATG Organization Along CLASSRON Product Lines



Summary

Process well underway, results by 1 July for all warfare areas for all ATGs.

Supports Cost Team FTCCS development.